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**PCT**

NOTIFICATION DE TRANSMISSION DE COPIES  
DE LA TRADUCTION DU RAPPORT D'EXAMEN  
PRÉLIMINAIRE INTERNATIONAL  
SUR LA BREVETABILITÉ (CHAPITRE I OU CHAPITRE II  
DU TRAITE DE COOPÉRATION EN MATIÈRE DE BREVETS)

(règles 44bis 3 c) et 72.2 du PCT)

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ORIGINAL

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Référence du dossier du déposant ou du mandataire  
5096/EL

**NOTIFICATION IMPORTANTE**

Demande internationale n°  
PCT/FR2004/002235

Date du dépôt international (jour/mois/année)  
02 septembre 2004 (02.09.2004)

Déposant

INSTITUT FRANCAIS DU PETROLE etc

**1. Transmission de la traduction au déposant.**



Le Bureau international transmet ci-joint copie de la traduction en langue anglaise du rapport préliminaire international sur la brevetabilité (chapitre I).



Le Bureau international transmet ci-joint copie de la traduction en langue anglaise du rapport préliminaire international sur la brevetabilité (chapitre II).

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Il est rappelé au déposant que lorsqu'une traduction de la demande internationale doit être remise à un office élu, cette traduction doit comporter la traduction de toute annexe du rapport préliminaire international sur la brevetabilité (chapitre II).

Il appartient au déposant d'établir la traduction en question et de la remettre directement à chaque office élu intéressé dans le délai applicable (règle 74.1). Voir le volume II du Guide du déposant du PCT pour de plus amples renseignements.

Bureau international de l'OMPI  
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# TRAITÉ DE COOPÉRATION EN MATIÈRE DE BREVETS

## PCT

### RAPPORT PRÉLIMINAIRE INTERNATIONAL SUR LA BREVETABILITÉ (chapitre I du Traité de coopération en matière de brevets)

(règle 44bis du PCT)

Référence du dossier du déposant ou du mandataire 5096/EL	<b>POUR SUITE À DONNER</b> Voir le point 4 ci-dessous	
Demande internationale no. PCT/FR2004/002235	Date du dépôt international ( <i>jour/mois/année</i> ) 02 September 2004 (02.09 2004)	Date de priorité ( <i>jour/mois/année</i> ) 19 September 2003 (19 09 2003)
Classification internationale des brevets (8 <sup>e</sup> édition, sauf indication d'une #dition ant#rieure) Voir les informations pertinentes dans le formulaire PCT/ISA/237		
Déposant INSTITUT FRANCAIS DU PETROLE		

1	Le présent rapport préliminaire international sur la brevetabilité (chapitre I) est établi par le Bureau international au nom de l'administration chargée de la recherche internationale selon la règle 44bis 1 a)	
2	Ce <b>RAPPORT</b> comprend un total de 5 feuilles, y compris la présente feuille de couverture.  Dans les feuilles jointes, toute référence à l'opinion écrite de l'administration chargée de la recherche internationale doit être entendue, à la place, comme une référence au rapport préliminaire international sur la brevetabilité (chapitre I).	
3	Le présent rapport contient des indications relatives aux points suivants :	
	<input checked="" type="checkbox"/> Cadre n° I	Base de l'opinion
	<input type="checkbox"/> Cadre n° II	Priorité
	<input type="checkbox"/> Cadre n° III	Absence de formulation d'opinion quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle
	<input type="checkbox"/> Cadre n° IV	Absence d'unité de l'invention
	<input checked="" type="checkbox"/> Cadre n° V	Déclaration motivée selon l'article 35 2) quant à la nouveauté, l'activité inventive et la possibilité d'application industrielle; citations et explications à l'appui de cette déclaration
	<input type="checkbox"/> Cadre n° VI	Certains documents cités
	<input type="checkbox"/> Cadre n° VII	Certaines irrégularités relevées dans la demande internationale
	<input type="checkbox"/> Cadre n° VIII	Certaines observations relatives à la demande internationale
4	Le Bureau international communiquera le présent rapport aux offices désignés conformément aux règles 44bis 3 c) et 93bis 1 mais pas avant l'expiration du délai de 30 mois à compter de la date de priorité (règle 44bis 2), sauf si le déposant a présenté une requête expresse à cet égard en vertu de l'article 23 2)	

	Date d'établissement du présent rapport 03 July 2006 (03.07.2006)
Bureau international de l'OMPI 34, chemin des Colombettes 1211 Geneva 20, Switzerland  no de télécopieur +41 22 338 82 70	Fonctionnaire autorisé  <b>Beate Giffo-Schmitt</b>  e-mail: pt03@wipo.int

# PATENT COOPERATION TREATY

Translation

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) <b>See form PCT/ISA/210</b>	
Applicant's or agent's file reference <b>5096/EL</b>	<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. <b>PCT/FR2004/002235</b>	International filing date (day/month/year) <b>02 . 09 . 2004</b>
Priority date (day/month/year) <b>19 . 09 . 2003</b>	
International Patent Classification (IPC) or both national classification and IPC <b>C10G11/16, C07C4/06</b>	
Applicant <b>INSTITUT FRANCAIS DU PETROLE</b>	

**1** This opinion contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No I	Basis of the opinion
<input type="checkbox"/>	Box No II	Priority
<input type="checkbox"/>	Box No III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No V	Reasoned statement under Rule 43bis 1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No VI	Certain documents cited
<input type="checkbox"/>	Box No VII	Certain defects in the international application
<input type="checkbox"/>	Box No VIII	Certain observations on the international application

**2 FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66 1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3** For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No

PCI/FR2004/002235

Box No. 1 Basis of this opinion

- 1 With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item:
- ☐ This opinion has been established on the basis of a translation from the original language into the following language: \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
- 2 With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
- a. type of material
- ☐ a sequence listing
- ☐ table(s) related to the sequence listing
- b. format of material
- ☐ in written format
- ☐ in computer readable form
- c. time of filing/furnishing
- ☐ contained in the international application as filed
- ☐ filed together with the international application in computer readable form
- ☐ furnished subsequently to this Authority for the purposes of search
- 3 ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
- 4 Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No

PCI/FR2004/002235

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement							
1	Statement							
	Novelty (N)	<table style="width: 100%;"> <tr> <td style="width: 10%;">Claims</td> <td style="width: 80%; border-bottom: 1px solid black;">1-10</td> <td style="width: 10%; text-align: right;">YES</td> </tr> <tr> <td>Claims</td> <td style="border-bottom: 1px solid black;"></td> <td style="text-align: right;">NO</td> </tr> </table>	Claims	1-10	YES	Claims		NO
Claims	1-10	YES						
Claims		NO						
	Inventive step (IS)	<table style="width: 100%;"> <tr> <td style="width: 10%;">Claims</td> <td style="width: 80%; border-bottom: 1px solid black;">7, 8</td> <td style="width: 10%; text-align: right;">YES</td> </tr> <tr> <td>Claims</td> <td style="border-bottom: 1px solid black;">1-6, 9-10</td> <td style="text-align: right;">NO</td> </tr> </table>	Claims	7, 8	YES	Claims	1-6, 9-10	NO
Claims	7, 8	YES						
Claims	1-6, 9-10	NO						
	Industrial applicability (IA)	<table style="width: 100%;"> <tr> <td style="width: 10%;">Claims</td> <td style="width: 80%; border-bottom: 1px solid black;">1-10</td> <td style="width: 10%; text-align: right;">YES</td> </tr> <tr> <td>Claims</td> <td style="border-bottom: 1px solid black;"></td> <td style="text-align: right;">NO</td> </tr> </table>	Claims	1-10	YES	Claims		NO
Claims	1-10	YES						
Claims		NO						
2	Citations and explanations:							
	<p>Reference is made to the following document:</p> <p>D1: EP-A-1 195 424 (AIOFINA RES) 10 April 2002 (2002-04-10)</p> <p><b>Novelty</b></p> <p>Document D1, which is considered to be the prior art closest to the subject matter of claim 1, describes a process for conversion of a hydrocarbon-based charge, by catalytic cracking, for the production of propylene. This process uses a moving bed, with intermittent removal of catalyst, which is regenerated and recycled (claim 1). The process of D1 uses an MFI-type zeolitic catalyst having an Si/Al ratio of 180 to 1000, or an MEL-type catalyst having an Si/Al ratio of 150 to 180. The process of the present invention uses a catalyst having an Si/Al ratio of between 40 and 130. Therefore, the subject matter of claims 1-10 is thus novel (PCI Article 33(2)).</p> <p><b>Inventive step</b></p> <p>According to the description, use is advantageously made of this relatively low Si/Al ratio, with an increased space velocity, by limiting the contact time so that the cracking reaction to propylene approaches the thermodynamic equilibrium without the hydrogen transfer reactions continuing to progress (page 7, lines 10-27). The use of a catalyst with a lower Si/Al, and thus an increased activity, jointly with an increased VVH makes it possible to obtain a reduction in the residence time of the catalyst in the overall reaction zone, and thus to counteract the increase in the speed of coking of the catalyst. With the present process, a new equilibrium of the operating variables is then obtained, with a reaction volume</p>							

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No

PCI/FR2004/002235

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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that can be reduced compared with that of D1.

The problem that the present invention is intended to solve can thus be considered to be that of the development of an improved process for the synthesis of propylene. The solution as proposed is the use of a lower Si/Al ratio with an increased VVH. The examiner considers that the solution proposed was not obvious to a person skilled in the art because the latter would not have thought to change the said variables in order to obtain the present solution.

Nevertheless, it clearly emerges that the following feature is essential to the definition of the invention: the space velocity (VVH) is high compared with the prior art. Since independent claim 1 does not contain this feature, it does not meet the requirements following from PCI Article 6 taken in combination with PCI Rule 6.3(b) that any independent claim must contain all the technical features essential for the definition of the invention. The problem is thus not considered to be solved for the scope of claim 1. The solution, as proposed in claims 1-6, 9-10 of the present application, is thus not considered to be inventive (PCI Article 33(3)).